

TURBOCHARGER WITH HYDRODYNAMIC FOIL BEARINGS

ABSTRACT OF THE DISCLOSURE

5 A turbocharger includes a foil bearing assembly mounted in a center housing
between a compressor and a turbine of the turbocharger. The bearing assembly forms
a unit installable into the center housing from one end thereof, and the center housing
is a one-piece construction. The bearing assembly includes a foil thrust bearing
assembly disposed between two foil journal bearings. The journals foils are mounted
in annular bearing carriers fixedly mounted in the center housing. A radially inner
10 portion of a thrust disk of the thrust bearing assembly is captured between a shaft and
a shaft sleeve of the turbocharger. The center housing defines cooling air passages for
supplying cooling air to the foil bearings, and optionally includes a water jacket for
circulating engine coolant through the center housing.